



Evaluation of mastitis as a cause of lameness and digital lesions in dairy cows

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Lameness and mastitis beside infertility are major health concern and economic loss in dairy herds that affect animal health and reduce productivity and comfort of the cows.

Regards to occurrence of lameness after infectious and endotoxemic conditions and back to causative agents in mastitis and scattered reports, the main objective of this current study was establishing possible correlation between lameness and infectious conditions like mastitis.

This current study was done in a large dairy herd during a 9 month period. Cows were housed in loose housing system and fed by total mixed ratio. Mastitis recorded as a three point scale that in score one, milk clots in fore milking considered as the most important finding, in score two in addition to milk clots general conditions of inflammation was obvious in the udder but no general sings recorded and in score three in addition to the above findings cows express general illness including fever, anorexia. Hoof care and lameness management were done in the herd and in addition to hoof trimming by professional hoof trimmers and veterinary practitioner, hoof bathing, bedding management, heat stress control were done and data recorded.

Five hundred forty six cows affected with different mastitis scores were selected during 9 month started March 2014 - January 2015. Hoof lesions recorded up to three month after mastitis occurrence. The same number of cows selected randomly from negative mastitis cows as control group and all lameness data recorded in this group as well. Lameness compared between two groups and $P < 0.05$ considered as significant. Locomotion scores of the cows also recorded based on a five point scale monthly and compared from three month before mastitis till three month after mastitis.

Results showed that overall lameness were not different between groups ($P > 0.05$). New cases of noninfectious lameness were significantly higher in mastitis than control group ($P < 0.05$).

Sole ulcer, White line disease, toe ulcers were higher in mastitis group but didn't show significant difference with control group. In contrast digital dermatitis were significantly lower in mastitis group ($P < 0.05$).

It seems that mastitis can play a role in increasing incidence of noninfectious lameness. However since some causative factors in both conditions maybe the same, lameness and mastitis may be a result of a same causative agent that needs further study. Lower rate of digital dermatitis in mastitis group maybe a result of antibiotic treatment.

Incidence of hoof lesions in dairy farms in Iran

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Lameness have known as the most important problem in dairy cattle welfare and economic losses and got the third place after infertility and mastitis. Different incidence of lameness has been reported base to different production, climatic, management conditions. Knowing the overall incidence of different lesions that resulted in lameness can play an important role in understanding current situation and making targets for control and management of the conditions.

This current study was done to detect the incidence of hoof lesions in Iran. Four industrial dairy herds were selected in different parts of Iran. With 933 to 4490 productive cows (milking and dry) cows, in different climates from very cold to hot and low to high humid weather. Cows were milked three times a day and received total mix ratio. Cows were housed in loose stall to free stall barns. Hoof care program (by a veterinarian) started at least 5 years before start of the study. Hoof trimming was done on the following basis; each cow was trimmed two times a year as one time is immediately before drying and the other is around 100 days after parturition. In addition to normal hoof trimmings cattle with locomotion scores 4 and 5 on a five point scale, repeat breeders and referral cows also referred to trimming for detection of any possible lesion in the hoof.

Data were recorded in a hoof trimming record sheet, and finalized in excel sheet and management software of the farms. Injuries recorded by its affected zones (1-12). Sole Ulcer (SU), toe ulcer (TU), white Line disease (WLD),

digital dermatitis (DD) and interdigital necrobacillosis (INB) were notified in this current study. Information recorded from March 2012 to February 2014 (two years). The annual incidence of each lesion and overall incidence of the lesions were reported. Total of 20000 cows were evaluated with 132000 times of inspection in this period. The overall incidence of the lesions was different between farms (14.34 – 61.89%). The most prevalent lesion was sole ulcer among non infectious causes and digital dermatitis among infectious causes. The most prevalent lesion was digital dermatitis in three out of four farms. The overall annual incidence of lesions recorded as 31.75%. The annual incidence of each lesion in Iran recorded as 9.70% for SU, 1.53% for TU, 5.75% for WLD, 11.66% for DD and 3.00% for INB.

Toe ulcer incidence and cure rate in a dairy herd

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Lameness is a multifactorial condition. Primary causes include infectious agents (e.g., foot rot), laminitis, conformational or other lesions (e.g., corkscrew claw, leg injury); and claw lesions such as white line disease, thin sole-induced toe ulcers, sole ulcers, heel ulcers, toe ulcers, sole punctures, and thin soles. Compression of the corium between the sole and third